

ABSTRACT OF THE DISCLOSURE

The present invention relates to antagonists of vertebrate growth hormones obtained by mutation of the third alpha helix of such proteins (especially bovine or human 5 GHs). These mutants have growth-inhibitory or other GH- antagonizing effects. These novel hormones may be administered exogenously to animals, or transgenic animals may be made that express the antagonist. Animals have been made which exhibited a reduced growth phenotype. The 10 invention also describes methods of treating acromegaly, gigantism, cancer, diabetes, vascular eye diseases (diabetic retinopathy, retinopathy of prematurity, age-related macular degeneration, retinopathy of sickle-cell anemia, etc.) as well as nephropathy and other diseases, by administering an 15 effective amount of a growth hormone antagonist. The invention also provides pharmaceutical formulations comprising one or more growth hormone antagonists.

*Sub a 3*

20

25

30

35